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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,140	03/02/2004	Hiroshi Suzuki	1309.43598X00	3015
24956	7590	08/09/2005	EXAMINER	
MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C. 1800 DIAGONAL ROAD SUITE 370 ALEXANDRIA, VA 22314				MARTINEZ, DAVID E
ART UNIT		PAPER NUMBER		
2182				

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/790,140	SUZUKI ET AL.
	Examiner	Art Unit
	David E. Martinez	2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 July 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
 - 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,2 and 4-6 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 02 March 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4/22/05, 3/2/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.



DETAILED ACTION***Election/Restrictions***

/Applicant's election without traverse of Species I, Claims 1-6 in the reply filed on 7/19/05 acknowledged.

Drawings

Figures 14 and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 3 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claims 1 and 3, the "connected mode" and "independent mode" in claim 1 are incompatible with the connected and independent modes in claim 3. It is not understood how the system can operate having a connected mode and an independent mode that work one way in claim 1, and the same connected mode and independent modes that work in a different way in claim 3. It is not clear how any of the connected or independent modes work since they

are defined differently in both claims. Claim 3 seems to be a contradiction to the connected and independent modes of claim 1.

Due to the vagueness and a lack of clear definiteness used in claim 1, it has been treated on its merits as best understood by the examiner to help further prosecute the application, however, due to the vagueness and a lack of clear definiteness used in claim 3, it has not been treated on its merits since it seems to contradict claim 1. See *In re Steele*, 305 F.2d 859,134 USPQ 292 (CCPA 1962).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,845,409 to Talagala et al. (Talagala).

With regards to claim 1, Talagala teaches a disk array device [fig 2] comprising:
a channel adapter [fig 2 element 14A] that controls data transmission and reception with a high-order device [fig 2 element 32];
a storage device that stores data [fig 2 element 30 – column 8 lines 13-16];
a storage device control board [fig 2 element 14A, as shown in fig 3A, having element 40] to which the storage device is connected [column 8 lines 52-61];
a disk adapter [fig 2 element 16] that is connected to the storage device [fig 2 element 30] via the storage device control board [fig 2 element 14A having fig 3A element 40] and

controls data transmission and reception with the storage device [fig 2 element 30] [column 9 lines 11-13]; and

a management unit [figs 1 and 2, element 12] that is respectively connected to the disk adapter [figs 1 and 2, element 16] and the channel adapter [figs 1 and 2, element 14A], wherein the storage device control board [fig 2 element 14A – details shown in figs 3A and 3B, element 40] includes

a connection circuit [fig 3B element 47] that is connected to the storage device [fig 2 element 30], and

switch circuits that are respectively disposed at an input side and an output side of the connection circuit [fig 3B element 47] and are switchable between a connected mode where they are connected to another adjacent storage device control board [fig 2, element 14B] and an independent mode where they are separated from the other adjacent storage device control board [column 9 lines 25-36], and

the switch circuits are switchable between the connected mode and the independent mode by an output signal from the management unit [column 2 lines 23-35, column 3 lines 7-11 – Also see fig 12].

With regards to claim 5, Talagala teaches the disk array device of claim 1, wherein the connection circuit is configured by any of a port bypass circuit and a fibre channel switch [column 2 lines 23-35, column 3 lines 7-11 – Also see fig 12, column 9 lines 11-13].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,845,409 to Talagala et al. (Talagala). In view of US Patent No. 6,532,547 to Wilcox.

With regards to claim 2, Talagala is silent as to the disk array device of claim 1, wherein the storage device control board and the other storage device control board are respectively mounted on a same attachment-use board.

However, Wilcox teaches a storage device control board and another storage device control board are respectively mounted on a same attachment-use board for the benefit of system integration to lower production cost [fig 1 element 10, column 4 lines 10-16].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Talagala and Wilcox to have the storage device control board and the other storage device control board are respectively mounted on a same attachment-use board for the benefit of system integration to lower production cost.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,845,409 to Talagala et al. (Talagala). In view of Applicant's Admitted Prior Art (AAPA).

With regards to claim 4, Talagala is silent as to the the disk array device of claim 1, wherein the storage device includes a first port and a second port, with the first port and the second port being connected to respectively different storage device control boards and the storage device control boards being connected to respectively different disk adapters.

However, AAPA teaches a storage device [fig 15 elements 610] includes a first port [Fig 15, A port] and a second port [Fig 15, B port], with the first port and the second port being connected to respectively different storage device control boards [Fig 15, elements 611 and 612] and the storage device control boards being connected to respectively different disk adapters [fig 15, elements 601 and 602] for the benefit of providing a fault tolerant system so if

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one control board or disk adapter fails, then it can still be accessed through the other control board or other disk adapter [see background of the invention in the instant application].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Talagala and AAPA to have the storage device include a first port and a second port, with the first port and the second port being connected to respectively different storage device control boards and the storage device control boards being connected to respectively different disk adapters for the benefit of providing a fault tolerant system so if one control board or disk adapter fails, then it can still be accessed through the other control board or other disk adapter.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,845,409 to Talagala et al. (Talagala). In view of Applicant's Admitted Prior Art (AAPA) and further in view of US Patent Application Publication No. US 2003/0053772 A1 to Ikunishi et al.(Ikunishi).

With regards to claim 6, the combination of Talagala and AAPA is silent as to the disk array device of claim 4, wherein respectively different colors are associated with input-side connectors and output-side connectors with which the disk adapter and the storage device control board are disposed, and

respectively different colors are associated with signal lines associated with the first port and signal lines associated with the second port of signal lines connecting the respective connectors to each other.

However, Ikunishi teaches the different colors being associated with input-side connectors and output-side connectors, and different colors being associated with signal lines associated with the first port and signal lines associated with the second port of signal lines

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connecting the respective connectors to each other for the benefit of being able to easily visually identifying signal lines and connectors [abstract, paragraph 73].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Talagala, AAPA, and Ikunishi to have different colors associated with input-side connectors and output-side connectors with which the disk adapter and the storage device control board are disposed, and

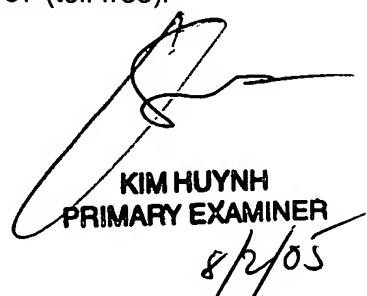
respectively different colors are associated with signal lines associated with the first port and signal lines associated with the second port of signal lines connecting the respective connectors to each other for the benefit of being able to easily visually identifying signal lines and connectors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Martinez whose telephone number is (571) 273-4152. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KIM HUYNH
PRIMARY EXAMINER
8/2/05